WHAT IS CLAIMED IS:

1. A beam combiner, comprising:

a first beam-input face aligned to receive first and second beams of electromagnetic energy respectively having a first and second wavelengths;

a beam-output face;

a first reflector aligned to reflect the first received beam toward the beam-output face; and

a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam-output face.

2. The beam combiner of claim 1, further comprising:

wherein the first beam-input face is aligned to receive a third beam of electromagnetic energy having a third wavelength;

a third reflector aligned to reflect the received third beam toward the beam-output face; and

wherein the first and second reflectors are aligned to pass the third beam from the third reflector.

3. The beam combiner of claim 1, further comprising:

wherein the first and second beams respectively comprise green and blue light;

wherein the first beam-input face is aligned to receive a third beam of red light;

a third reflector aligned to reflect the received third beam toward the beam-output face; and

wherein the first and second reflectors are aligned to pass the third beam from the third reflector.

4. The beam combiner of claim 1, further comprising:

a second beam-input face aligned to receive a third beam of electromagnetic energy having a third wavelength and directed toward the beam-output face; and

wherein the first and second reflectors are aligned to pass the third beam from the second beam-input face.

5. The beam combiner of claim 1, further comprising:

wherein the first and second beams respectively comprise green and blue light;

a second beam-input face aligned to receive a third beam of red light directed toward the beam-output face; and

wherein the first and second reflectors are aligned to pass the third beam from the second beam-input face.

6. The beam combiner of claim 1 wherein:

the first reflector is substantially planar; and

the second reflector is substantially planar and is substantially parallel to the first reflector.

7. The beam combiner of claim 1 wherein:

the first beam-input face is substantially planar; and

the second reflector is substantially planar and intersects the beam-input face at an acute angle.

8. The beam combiner of claim 1 wherein:

the beam-output face is substantially planar; and

the second reflector is substantially planar and intersects the beam-output face at an acute angle.

9. The beam combiner of claim 1, further comprising:

wherein the first beam-input face is aligned to receive a third beam of electromagnetic energy having a third wavelength;

a third reflector aligned to reflect the received third beam toward the beam-output face;

wherein the third beam is operable to propagate from the first beam-input face, through first regions of the first and second reflectors, to the third reflector, and through second regions of the first and second reflectors; and

wherein the first beam is operable to propagate from the first beam-input face, through a first region of the second reflector, to the first reflector, and through a second region of the second reflector.

10. The beam combiner of claim 1 wherein the first beam-input face comprises a first segment face aligned to receive the first beam of electromagnetic energy and a second segment face aligned to receive the second beam of electromagnetic energy, the second segment face being noncoplanar with the first segment face.

11. The beam combiner of claim 1 wherein the first beam-input face comprises a first segment face aligned to receive the first beam of electromagnetic energy and a second segment face aligned to receive the second beam of electromagnetic energy, the second segment face being substantially coplanar with the first segment face.

12. A beam combiner, comprising:

a first section of transparent material having a beam-input face and a beam-output face;

a second section of transparent material having a beam input face, a beam-directing face adjacent to the beam-output face of the first section and operable to reflect a second wavelength and to pass a first wavelength of electromagnetic radiation, and a beam-output face; and

a third section of transparent material having a beam input face, a beam-directing face adjacent to the beam-output face of the second section and operable to reflect a third wavelength of electromagnetic radiation and to pass the first and second wavelengths, and a beam output face.

13. The beam combiner of claim 12 wherein:

the first wavelength of electromagnetic radiation comprises red light;

the second wavelength of electromagnetic radiation comprises green light; and

the third wavelength of electromagnetic radiation comprises blue light.

14. The beam combiner of claim 12 wherein the first section comprises a beam-directing face operable to reflect the first wavelength of electromagnetic radiation.

15. The beam combiner of claim 12 wherein:

the beam-input face and the beam-output face of the first section intersect at an acute angle;

the beam-input face and the beam-output face of the second section intersect at an obtuse angle; and

the beam-input face and the beam-output face of the third section intersect at a substantially right angle.

16. The beam combiner of claim 12 wherein:

the beam-input face and the beam-output face of the first section intersect at an obtuse angle;

the beam-input face and the beam-output face of the second section intersect at an obtuse angle; and

the beam-input face and the beam-output face of the third section intersect at a substantially right angle.

17. The beam combiner of claim 12 wherein:

the beam-input face and the beam-directing face of the second section intersect at an acute angle; and

the beam-input face and the beam-directing face of the third section intersect at an acute angle.

18. The beam combiner of claim 12 wherein:

the first section comprises a beam-directing face operable to reflect the first wavelength of electromagnetic radiation;

the beam-input face and the beam-directing face of the first section intersect at an acute angle;

the beam-input face and the beam-directing face of the second section intersect at an acute angle; and

the beam-input face and the beam-directing face of the third section intersect at an acute angle.

19. The beam combiner of claim 12 wherein:

the beam-directing face and the beam-output face of the second section are substantially parallel; and

the beam-directing face and the beam-output face of the third section intersect at an acute angle.

20. The beam combiner of claim 12 wherein:

the first section comprises a beam-directing face aligned to reflect the first wavelength of electromagnetic radiation;

the beam-directing face and the beam-output face of the first section are substantially parallel;

the beam-directing face and the beam-output face of the second section are substantially parallel; and

the beam-directing face and the beam-output face of the third section intersect at an acute angle.

21. The beam combiner of claim 12 wherein the height of the beam-output face of the third section is substantially equal to the lengths of the beam-input faces of the first, second, and third sections.

22. The beam combiner of claim 12 wherein the beam input faces of the second and third sections of transparent material are substantially coplanar.

23. A beam combiner, comprising:

a first section of transparent material having a beam-input face and having a first beam-directing face operable to reflect a second wavelength and to pass a first wavelength of electromagnetic radiation;

a second section of transparent material having a beam-input face, a beam-receiving face adjacent to the first beam-directing face of the first section, and a beam-directing face operable to reflect a third wavelength of electromagnetic radiation and to pass the first and second wavelengths; and

a third section of transparent material having a beam-input face, a beam-receiving face adjacent to the beam-directing face of the second section, and a beam-output face.

24. The beam combiner of claim 23 wherein:

the first wavelength of electromagnetic radiation comprises red light;

the second wavelength of electromagnetic radiation comprises green light; and

the third wavelength of electromagnetic radiation comprises blue light.

25. The beam combiner of claim 23 wherein the first section comprises a second beam-directing face operable to reflect the first wavelength of electromagnetic radiation toward the first beam-directing face.

26. The beam combiner of claim 23 wherein:

the beam-input face and the first beam-directing face of the first section intersect at an acute angle;

the beam-input face and the beam-directing face of the second section intersect at an obtuse angle; and

the beam-input face and the beam-output face of the third section intersect at a substantially right angle.

27. The beam combiner of claim 23 wherein:

the beam-input face and the first beam-directing face of the first section intersect at an obtuse angle;

the beam-input face and the beam-directing face of the second section intersect at an obtuse angle; and

the beam-input face and the beam-output face of the third section intersect at a substantially right angle.

28. The beam combiner of claim 23 wherein:

the beam-input face and the beam-receiving face of the second section intersect at an acute angle; and

the beam-input face and the beam-receiving face of the third section intersect at an acute angle.

29. The beam combiner of claim 23 wherein:

the first section comprises a second beam-directing face operable to reflect the first wavelength of electromagnetic radiation;

the beam-input face and the first beam-directing face of the first section intersect at an obtuse angle;

the beam-input face and the second beam-directing face of the first section intersect at an acute angle;

the beam-input face and the beam-directing face of the second section intersect at an obtuse angle;

the beam-input face and the beam-receiving face of the second section intersect at an acute angle; and

the beam-input face and the beam-receiving face of the third section intersect at an acute angle.

30. The beam combiner of claim 23 wherein:

the beam-receiving face and the beam-directing face of the second section are substantially parallel; and

the beam-receiving face and the beam-output face of the third section intersect at an acute angle.

31. The beam combiner of claim 23 wherein:

the first section comprises a second beam-directing face aligned to reflect the first wavelength of electromagnetic radiation;

the first and second beam-directing faces are substantially parallel;

the beam-receiving face and the beam-directing face of the second section are substantially parallel; and

the beam-receiving face and the beam-output face of the third section intersect at an acute angle.

32. The beam combiner of claim 23 wherein the height of the beam-output face of the third section is substantially equal to the lengths of the beam-input faces of the first, second, and third sections.

33. The beam combiner of claim 23 wherein the beam input faces of the second and third sections of transparent material are substantially coplanar.

34. An image-beam generator, comprising:

a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths; and

a beam combiner, including,

a beam-input face aligned to receive the first, second, and third beams,

a beam output face aligned to emanate an image beam that includes the first, second, and third beams,

a first reflector aligned to reflect the first received beam toward the beam-output face,

a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam-output face in alignment with the first beam, and

a third reflector aligned to pass the first and second beams from the first and second reflectors and to reflect the received third beam toward the beam-output face in alignment with the first and second beams.

35. The image-beam generator of claim 34 wherein the first, second, and third beams respectively comprise red, green, and blue components of an image.

36. The image-beam generator of claim 34 wherein the first, second, and third beams traverse respective paths from the beam source to the beam-output face of the beam combiner, the paths having substantially the same optical length.

37. The image-beam generator of claim 34, further comprising:

wherein the beam-output face is aligned to emanate a composite beam that includes the first, second, and third beams; and

an optical train aligned after the beam-output face to generate the image beam from the composite beam.

38. The image-beam generator of claim 34 wherein the beam source comprises first, second, and third beam generators respectively operable to generate the first, second, and third beams.

39. The image-beam generator of claim 34 wherein the beam-input face comprises first, second, and third substantially coplanar segment faces aligned to respectively receive the first, second, and third beams.

40. The image-beam generator of claim 34 wherein the beam-input face comprises first, second, and third segment faces aligned to respectively receive the first, second, and third beams, one of the segment faces being noncoplanar with another one of the segment faces.

41. An image-beam generator, comprising:

a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths; and

a beam combiner, including,

a first beam-input face aligned to receive the first beam;

a second beam-input face aligned to receive the second and third beams,

a beam output face aligned to emanate an image beam that includes the first, second, and third beams,

a first reflector aligned to pass the first beam from the first beam-input face and to reflect the received second beam toward the beam-output face in alignment with the first beam, and

a second reflector aligned to pass the first and second beams from the second reflector and to reflect the received third beam toward the beam-output face in alignment with the first and second beams.

42. The image-beam generator of claim 41 wherein the first, second, and third beams respectively comprise red, green, and blue components of an image.

43. The image-beam generator of claim 41 wherein the first, second, and third beams respectively comprise red, green, and blue components of a pixel.

44. The image-beam generator of claim 41 wherein the first, second, and third beams traverse respective paths from the beam source to the beam-output face of the beam combiner, the paths having substantially the same optical length.

45. An image generator, comprising:

a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths;

a beam combiner, including,

a beam-input face aligned to receive the first, second, and third beams,

a beam output face aligned to emanate an image beam that includes the first, second, and third beams,

a first reflector aligned to reflect the first received beam toward the beam-output face,

a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam-output face in alignment with the first beam, and

a third reflector aligned to pass the first and second beams from the first and second reflectors and to reflect the received third beam toward the beam-output face in alignment with the first and second beams; and

a scanner operable to generate an image with the image beam.

46. The image generator of claim 45 wherein the scanner comprises a mirror operable to generate the image by sweeping the image beam across a display region.

47. The image generator of claim 45 wherein the scanner comprises a microelectromechanical scanner.

48. The image generator of claim 45 wherein the scanner is operable to generate the image on a display screen.

49. An image generator, comprising:

a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths;

a beam combiner, including,

a first beam-input face aligned to receive the first beam;

a second beam-input face aligned to receive the second and third beams,

a beam output face aligned to emanate an image beam that includes the first, second, and third beams,

a first reflector aligned to pass the first beam from the first beam-input face and to reflect the received second beam toward the beam-output face in alignment with the first beam, and

a second reflector aligned to pass the first and second beams from the second reflector and to reflect the received third beam toward the beam-output face in alignment with the first and second beams; and

a scanner operable to generate an image with the image beam.

50. A method, comprising:

directing a first beam of electromagnetic energy having a first wavelength through a first reflector with a second reflector; and

directing a second beam of electromagnetic energy having a second wavelength with the first reflector such that the first beam is substantially aligned with the second beam.

51. The method of claim 50, further comprising directing a third beam of electromagnetic energy having a third wavelength through the first and second reflectors such that the third beam is substantially aligned with the first and second beams.

52. The method of claim 50 wherein the first, second, and third beams respectively comprise green, blue, and red light.

53. The method of claim 50, wherein directing the first beam comprises reflecting the first beam through the first reflector with a second reflector.

54. The method of claim 50, wherein directing the first beam comprises:

directing the first beam through the first reflector; and

reflecting the first beam back through the first reflector with a second reflector.

55. A method, comprising:

generating first, second, and third beams of light respectively having first, second, and third wavelengths;

directing the first beam through first and second reflectors;

directing the second beam through the second reflector with the first reflector such that the directed second beam substantially coincides with the directed first beam; and

directing the third beam with the second reflector such that the directed third beam substantially coincides with the directed first and second beams.

56. The method of claim 55 wherein the first, second, and third beams respectively comprise red, green, and blue components of an image.

57. The method of claim 55 wherein:

directing the first beam comprises causing the first beam to traverse a first optical path having a length;

directing the second beam comprises causing the second beam to traverse a second optical path having the same length; and

directing the third beam comprises causing the third beam to traverse a third optical path having the same length.

58. The method of claim 55, further comprising scanning the substantially coinciding first, second, and third beams to generate an image on a display.

59. The method of claim 55, further comprising scanning the coinciding first, second, and third beams into an eye to generate an image on a retina.

60. A method, comprising:

attaching an hypotenuse of a triangular first slab of transparent material to a first side of a rectangular second slab of transparent material to form an interface operable to reflect a first wavelength of electromagnetic energy and to pass second and third wavelengths of electromagnetic energy, the second slab having a second side opposite the first side; and

attaching a first side of a third slab of transparent material to the second side of the second rectangular slab to form an interface operable to reflect the second wavelength and to pass the first wavelength.

61. The method of claim 60, further comprising:

wherein the third slab is rectangular; and

planing beam-input ends of the second and third slabs such that the beam-input ends are substantially coplanar with a beam-input end of the first slab.

62. The method of claim 60 wherein the first, second, and third slabs comprise glass.

63. The method of claim 60 wherein:

the third slab is substantially triangular; and

the first side of the third slab comprises the hypotenuse of the third slab.

64. The method of claim 60, further comprising coating the hypotenuse of the first slab with a material operable to reflect the first wavelength of electromagnetic energy and to pass the second and third wavelengths of electromagnetic energy.

65. The method of claim 60, further comprising coating the first side of the second slab with a material operable to reflect the first wavelength of electromagnetic energy and to pass the second and third wavelengths of electromagnetic energy.

66. The method of claim 60, further comprising coating the first side of the third slab with a material operable to reflect the second wavelength of electromagnetic energy and to pass the third wavelength of electromagnetic energy.

67. The method of claim 60, further comprising coating the second side of the second slab with a material operable to reflect the second wavelength of electromagnetic energy and to pass the third wavelength of electromagnetic energy.

68. A method, comprising

attaching a first side of a rectangular first slab of transparent material to a first side of a rectangular second slab of transparent material to form an interface operable

to reflect a first wavelength of electromagnetic energy and to pass second and third wavelengths of electromagnetic energy;

attaching a second side of the rectangular first slab to a first side of a rectangular third slab of transparent material to form an interface operable to reflect the first wavelength and to pass the second and third wavelengths;

attaching a second side of the rectangular second slab to a first side of a rectangular fourth slab of transparent material to form an interface operable to reflect the second wavelength and to pass the third wavelength;

attaching a second side of the rectangular third slab to a first side of a rectangular fifth slab of transparent material to form an interface operable to reflect the second wavelength and to pass the third wavelength;

cutting through the attached first, second, third, fourth, and fifth slabs to form a combination slab;

cutting the combination slab in sections such that a first section includes portions of the first, second, and fourth slabs and that a second section includes portions of the first, third, and fifth slabs;

polishing the cut edges and the largest surfaces of the first and second sections of the combination slab; and

forming beam combiners by cutting the first and second sections of the combination slab in directions substantially perpendicular to the respective cut edges of the sections.

69. The method of claim 68, further comprising planing edges of the first and second sections of the combination slab opposite the respective cut edges after cutting the combination slab in sections.

70. The method of claim 68, further comprising planing opposite edges of the combination slab before cutting the combination slab in sections.

71. The method of claim 68 wherein the first, second, third, fourth, and fifth slabs have substantially equal thicknesses.

72. The method of claim 68 wherein the first slab is thicker than the second, third, fourth, and fifth slabs.

73. The method of claim 68 wherein:

the first slab is thicker than the second, third, fourth, and fifth slabs; and

the second, third, fourth, and fifth slabs have substantially equal thicknesses.

74. The method of claim 68, further comprising treating second sides of the fourth and fifth slabs to reflect the third wavelength.

75. The method of claim 68, further comprising:

prior to cutting the first, second, third, fourth, and fifth slabs to form the combination slab,

attaching a second side of the rectangular fourth slab to a first side of a rectangular sixth slab of transparent material to form an interface operable to reflect the first wavelength of electromagnetic energy and to pass the second and third wavelengths of electromagnetic energy, and

attaching a second side of the rectangular sixth slab to a first side of a rectangular seventh slab of transparent material to form an interface operable to reflect the second wavelength and to pass the third wavelength;

wherein cutting through the attached first, second, third, fourth, and fifth slabs further comprises cutting through the sixth and seventh slabs to form a combination slab;

wherein cutting the combination slab in sections further comprises cutting the combination slab in sections such that a third section includes portions of the fourth, sixth, and seventh slabs;

wherein polishing the cut edges further comprises polishing the cut edges and the largest surface of the third section of the combination slab; and

wherein forming beam the combiners further comprises forming the combiners by cutting the third section of the combination slab in directions substantially perpendicular to the respective cut edges of the third section.

76. A method, comprising

attaching a first side of a rectangular first slab of transparent material to a first side of a rectangular second slab of transparent material to form an interface operable to reflect a first wavelength of electromagnetic energy and to pass second and third wavelengths of electromagnetic energy;

attaching a second side of the rectangular second slab to a first side of a rectangular third slab of transparent material to form an interface operable to reflect the second wavelength and to pass the third wavelength;

cutting through the attached first, second, and third slabs to form a combination slab;

cutting an edge of the combination slap formed by a second side of the first slab;

polishing the cut edge and the largest surface of the combination slab; and

forming beam combiners by cutting the combination slab in directions substantially perpendicular to the cut edge.